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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,948	11/25/2003	Greg Marriott	106842005400	9619

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EXAMINER	
LIANG, REGINA	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/722,948	MARRIOTT ET AL.	
	Examiner	Art Unit	
	Regina Liang	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19,21-24,26-28 and 31-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *31-34* is/are allowed.

6)☒ Claim(s) *1-19,21-24,26-28 and 35-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/20/07,9/7/07,8/31/07,8/17/07,7/20/07,7/12/07.

DETAILED ACTION

1. Claims 1-19, 21-24, 26-28, 31-39 are pending in the application.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 35-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 is confusing as to what the controller has to do with the message. It is also confusing in that the controller has no relationship with the touch pad, it is not clear where are the current set of native values and the prior set of native values coming from? Are they related to touch pad event, button event, or event parameter? Are the values compared by the controller different from the touch pad event, button event, or event parameter?

Claim 36 is confusing in that the controller has no relationship with the touch pad, it is not clear where are the current set of native values and the prior set of native values coming from? In addition, the terms "capable of" also renders the claim vague and indefinite in that a positive recitation is missing.

Claim Rejections - 35 USC § 103

4. Claims 1-13, 15-19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram et al (US Patent No. 5,613,137) in view of Liu et al (US 6,606,244).

As to claim 1, Bertram discloses a touch pad assembly (18), comprising: a touch pad having a surface and one or more sensors (see Fig. 3, touchpad sensor) configured to map the touch pad surface into native sensor coordinates (see col. 15, lines 21-28; col. 20, lines 36-51). Bertram also discloses a controller (CPU 30) configured to define one or more logical device units (200, 206, 208, 212, 214, Fig. 4), receive from the one or more sensor native values associated with the native sensor coordinates, adjust the native values associated with the native sensor coordinates into new values associated with the logical device units and report the new values to a host device (col. 20, lines 5-67, coprocessor 32 corresponds to a host device), the logical device units associated with areas of the touch pad that can be actuated by a user (col. 20, line 62 to coil 21, line 10).

Bertram does not explicitly disclose the controller located in the touch pad assembly. However, Liu teaches a pointing device (Fig. 2, touchpad 100) assembly having a controller (CPU 110 in Fig. 2, and see col. 2, line 6-7, 59-61). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the controller of Bertram to be included in the touch pad assembly as taught by Liu so as to provide "a pointing device having a computer host to give consideration to the convenience provided by the pointing device and further improvement in the portable ability of the traditional computer host" (col. 1, lines 38-42 of Liu).

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch pad assembly comprising the controller as claimed, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

As to claim 6, Bertram discloses the native sensor coordinates (215, Fig. 4) comprise Cartesian coordinates.

As to claim 7, Bertram discloses the native sensor coordinates comprise Polar coordinates (e.g. the regions 206, 208 are defined by a center and radius).

As to claim 8, Bertram discloses logical device units (e.g. 215 of Fig. 4) comprise Cartesian coordinates.

As to claim 9, Bertram discloses the logical device units (206, 208, Fig. 4) comprise Polar coordinates.

As to claim 10, Bertram discloses the new values of the logical device units are reported in an absolute mode (see col. 18, lines 59-65).

As to claim 11, Bertram discloses the new values of the logical device units are reported in a relative mode (see col. 15, lines 20-34).

As to claim 12, Bertram discloses the new values of the logical device units are reported in a Cartesian absolute mode, a Cartesian relative mode, a Polar absolute mode or a Polar relative mode (see col. 18, lines 59-65; col. 15, lines 20-34).

As to claim 13, Bertram discloses the new values of the logical device units implements a specific control function in the host device (see col. 23, lines 7-15).

As to claim 15, it is noted that Bertram further discloses that the set-mapping-units commands allows application programs to define different units for the define-a-region command, thereby allowing the operating system to support touchpad of different resolution (col. 20, lines 36-40). Although Bertram does not specifically disclose the native sensor coordinates and the logical device units define a ratio between about 1024:1 to about 8:1, it would have been

obvious to one of ordinary skill in the art to have designed different resolution of the touch pad so as to create different sensitivity of the touch pad. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch pad of Bertram as modified by Liu to have the ratio as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As to claims 16, 17, Bertram discloses one or more touch buttons having one or more sensors, wherein the controller is configured to receive a native value from the one or more sensors (see Fig. 4), determine a button status from the native value, and report the button status to a host device, the button status being used by the host device to implement a button function in the host device (see col. 23, lines 7-15).

As to claim 18, Bertram discloses each of the logical device units represent a different movement direction on a display screen of the host device (see col. 17, line 65 to col. 18, line 48).

As to claim 19, Bertram discloses the host device comprise a media player (Fig. 1A) configured to at least one of store and play media, the media comprising at least one of audio, video and images, the media player comprising a housing configured to support the touch pad (19, Fig. 1A), a display (16, Fig. 1A) configured to display at least one of text and graphics and a CPU (36, Fig. 1A) configured to receive the new value of the logical device units from the controller and issue commands based on the new value to other components of the media player, the commands enabling at least movement of an object on the display (see TABLE as Shown in col. 17).

5. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram and Liu as applied to claim 1 above, and further in view of Meadows (US 5,053,757).

Bertram as modified by Liu does not disclose the controller is configured to compare a current set of native values and prior set of native values and to identify the current set of native values as associated with noise events or actual events depending whether the current set of native values and the prior set of native values are substantially similar. Meadows is cited to teach a touch pad similar to Bertram. Meadows teaches a touch pad with an adaptive filtering techniques having a controller configured to determine the rate of movement of a user's finger or stylus on the touch pad from a computation of a distance between the last reported touch location and the current touch location, and to identify the current values associated with noise events or actual event (col. 35, line 30 to col. 36, line 68 for example) based on the computed result of the prior location value with the current location value. Meadows' computation is essentially comparing the prior location to the current location to determine if there's any changes in the locations and if there is no change or minimal change (i.e. substantially similar) than the result is determined to be noise, otherwise the result is determined to be an actual event. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch pad of Bertram as modified by Liu to have the filtering feature as taught by Meadows such that the touch panel minimizes the effects of noise on touch location determination and to provide a touch pad device for locating touch on a touch sensing surface thereof with relative high degree of reliability and accuracy (see last seven lines in the abstract and col. 4, lines 34-37 of Meadows).

As to claims 2-5, Meadows teaches a touch pad with an adaptive filtering techniques (filtering process). Meadows' computation for computing the distance between the prior location and the current location to determine the rate of movement, this is essentially comparing the prior location to the current location to determine if there's any changes in the locations and if there is no change or minimal change (i.e. substantially similar) than the result is determined to be noise, otherwise the result is determined to be an actual event, which reads on the limitation as claimed.

6. Claim 14 is rejected under 33 U.S.C. 103(a) as being unpatentable over Bertram and Liu applied to claim 1 above, and further in view of Matzke et al. (US patent No. 4,736,191).

As to claim 14, it is noted that Bertram as modified by Liu does not specifically disclose the logical device units are angular Polar units distributed around the surface of the touch pad in a clock like manner. Matzke is cited to teach a touch pad device similar to Bertram. Matzke further discloses that the touch pad includes logical device units are angular Polar units distributed around the surface of the touch pad in a clock like manner (24, Fig. 1). Thus, it would have been obvious to one of ordinary skill in the art to have modified Bertram as modified by Liu with the features of the angular polar units of the touch pad as taught by Matzke because Matzke provides the manner in which the sectors are arranged, the user can command movement of the cursor in essentially any angular direction rather than being limited to translation of the cursor in only certain angular directions, as is the case with conventional touch pad positions (see col. 3, lines 26-32).

7. Claims 21-24, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram in view of Meadows.

As to claim 26, Bertram discloses a method, comprising: mapping the touch pad (Fig. 4) into native sensor coordinates (see col. 20, lines 36-51); producing native values associated with a native sensor coordinate (206, 208, 212, 214, Fig. 4) when at least one of several different types of events occur on the touch pad, and generating a control signal based on the native values of the native sensor coordinates when a desired event occurs on the touch pad (see col. 20, line 62 to col. 21, line 10).

Bertram does not disclose the method comprising step of filtering the native value based on the type of event, wherein the step of filtering comprising determining whether the native value is associated with a noise event or an actual event, filtering a noise event and passing the actual event and comparing a current set of native values and prior set of native values and to identify the current set of native values as associated with noise events or actual events depending whether the current set of native values and the prior set of native values are substantially similar. Meadows is cited to teach a touch pad similar to Bertram. Meadows teaches a touch pad with an adaptive filtering techniques having a controller configured to determine the rate of movement of a user's finger or stylus on the touch pad from a computation of a distance between the last reported touch location and the current touch location, and to identify the current values associated with noise events or actual event (col. 35, line 30 to col. 36, line 68 for example) based on the computed result of the prior location value with the current location value. Meadows' computation is essentially comparing the prior location to the current location to determine if there's any changes in the locations and if there is no change or minimal

change (i.e. substantially similar) than the result is determined to be noise, otherwise the result is determined to be an actual event. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch pad of Bertram to have the filtering feature as taught by Meadows such that the touch panel minimizes the effects of noise on touch location determination and to provide a touch pad device for locating touch on a touch sensing surface thereof with relative high degree of reliability and accuracy (see last seven lines in the abstract and col. 4, lines 34-37 of Meadows).

As to claims 21, 27, Bertram discloses the control signal includes the native values of the native sensor coordinates (see col. 20, line 62 to col. 21, line 10).

As to claims 22, 28, Bertram discloses adjusting the native values of the native sensor coordinates into a new value when a desired event occurs on the touch pad, the control signal including the new value (e.g. absolute mode).

As to claim 23, Bertram discloses the new value has the same units (210) as the native values (215).

As to claim 24, Bertram discloses the new value (206, 208,212, 214) has different units as the native values (215).

8. Claims 35, 36 and 38 are rejected under 33 U.S.C. 103(a) as being unpatentable over Yates et al. (US Patent No. 6,750,803) in view of Meadows.

As to claim 35, Yates discloses in a computer system that facilitates bidirectional communications between a touch pad assembly (12, Fig.1) and a host device (20, Fig. 1), a message from the touch pad assembly to the host device (see Figs. 3 and 4A), the message

comprising: an event field identifying whether the message is a touch pad event (e.g. touch signal from the touch pad 28) or a button event (touch button 72,74,76)); an event identifier field identifying at least one event parameter (Fig. 4A), each event parameter having an event value, the event value for a touch pad event parameter indicating an absolute position (col. 4, lines 12-14), the event value for a button event parameter indicating button status (Figs. 4A, 4B).

Yates does not disclose the controller is configured to compare a current set of native values and prior set of native values and to identify the current set of native values as associated with noise events or actual events depending whether the current set of native values and the prior set of native values are substantially similar. Meadows is cited to teach a touch pad similar to Yates. Meadows teaches a touch pad with an adaptive filtering techniques having a controller configured to determine the rate of movement of a user's finger or stylus on the touch pad from a computation of a distance between the last reported touch location and the current touch location, and to identify the current values associated with noise events or actual event (col. 35, line 30 to col. 36, line 68 for example) based on the computed result of the prior location value with the current location value. Meadows' computation is essentially comparing the prior location to the current location to determine if there's any change in the locations and if there is no change or minimal change (i.e. substantially similar) than the result is determined to be noise, otherwise the result is determined to be an actual event. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch pad of Yates to have the filtering feature as taught by Meadows such that the touch panel minimizes the effects of noise on touch location determination and to provide a touch pad device for locating touch on

a touch sensing surface thereof with relative high degree of reliability and accuracy (see last seven lines in the abstract and col. 4, lines 34-37 of Meadows).

As to claim 36, note the discussion of claim 35 above. Yates discloses a touch pad assembly (12, Fig. 1) capable of transforming a user action into motion onto a display screen (20, Fig. 1), the touch pad system including a touch pad (28) whose entire touch sensing surface is divided into a plurality of independent and spatially distinct actuation zones (see Fig. 3), each of which includes a plurality of sensing node of the touch sensing surface and each of which represents a different control function (e.g. each section of the touch pad 28 is corresponding to the display icon on the screen 22).

As to claim 38, Yates discloses the actuation zones are substantially the same size and shape and include substantially the same number of sensing nodes of the touch sensing surface (see Figs. 7 and 8).

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yates and Meadows applied to claim 36 above, and further in view of Bertram.

It is noted that Yates does not specifically disclose each of the actuation zones are button zones that represent different movement direction on the display screen so as to enable joystick implementations, multiple dimensional menu selection. Bertram is cited to teach a touch pad device similar to Yates. Bertram further discloses each of the touch pad device units represent a different movement direction on a display screen of the host device so as to enable joystick implementations, multiple dimensional menu selection or photo image panning (see Fig. 2A). Thus, it would have been obvious to one of ordinary skill in the art to have modified Yates as

modified by Meadows with the features of the touch having directional control as taught by Bertram because Bertram provides a multiple functions touch device in addition to menu control.

10. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yates and Meadows applied to claim 36 above, and further in view of Matzke.

It is noted that Yates as modified by Meadows does not specifically disclose the touch sensing surface is circular, wherein the touch sensing nodes of the touch sensing surface are positioned at least angularly around the circular touch sensing surface, and wherein the actuation zones are positioned at least angularly around the circular touch sensing surface. Matzke is cited to teach a touch pad device similar to Bertram. Matzke further discloses that the touch pad includes the touch device is circular and the touch sensing nodes (e.g. sensors) distributed around the surface of the touch pad in a clock like manner (24, Fig. 1). It would have been obvious to one of ordinary skill in the art to have modified Yates as modified by Meadows with the features of the angular polar units of the touch pad as taught by Matzke because Matzke provides the manner in which the sectors are arranged, the user can command movement of the cursor in essentially any angular direction rather than being limited to translation of the cursor in only certain angular directions, as is the case with conventional touch pad positions (see col. 3, lines 26-32).

Allowable Subject Matter

11. Claims 31-34 are allowed.

Response to Arguments

12. Applicant's arguments with respect to claims 1-19, 21-24, 26-28, 35-39 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's remarks regarding 112 2nd rejection (claims 35 and 36) on page 10 are not persuasive. Claims 35 and 36 do not define the native values which are provided by the touch pad to the controller, applicant can not read limitation into the claims, therefore, the claims are still confusing.

Applicant's remarks regarding claims 26, 35, 36 are not persuasive. Meadows teaches a touch pad with an adaptive filtering techniques having a controller configured to determine the rate of movement of a user's finger or stylus on the touch pad from a computation of a distance between the last reported touch location and the current touch location, and to identify the current values associated with noise events or actual event (col. 35, line 30 to col. 36, line 68 for example) based on the computed result of the prior location value with the current location value. Meadows' computation is essentially comparing the prior location to the current location to determine if there's any changes in the locations and if there is no change or minimal change (i.e. substantially similar) than the result is determined to be noise, otherwise the result is determined to be an actual event, which read on classify values as actual events or noise events as claimed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Regina Liang
Primary Examiner
Art Unit 2674

1/24/08